

Commodity Spotlight



Soybean Prices Plunge on Big World Harvests, Weaker Demand

Last year, U.S. farmers enjoyed record sales of soybeans, thanks to a bumper harvest and favorable prices. In 1998, U.S. soybean farmers will produce their second consecutive record harvest. At 2.83 billion bushels, this year's crop will be nearly 4 percent larger than last year's. But the 1998/99 outlook for marketing has greatly changed. Soybean prices at the farm level are forecast to slide from the 1997/98 average of \$6.45 per bushel to \$4.85-\$5.85 this season, the lowest since 1986/87. Greater world supplies and weaker demand are responsible for this dramatic market turnabout. Compared with the diminished level 2 years ago, projected global soybean ending stocks in 1998/99 are expected to be twice as high.

Farm policies promoting greater planting flexibility—which made expected market returns the major determinant of farmers' acreage—have helped make 1998 the sixth consecutive year of higher soybean plantings. Comparatively lower grain and cotton prices pushed U.S. soybean plantings this spring to an all-time-high 72.7 million acres. Steadily rising yields and lower production costs (partly due to widespread adoption of conservation tillage practices and herbicide-tolerant varieties) have also boosted soybean acreage.

Higher yields will also contribute to increased production. Most soybean acreage was planted earlier than usual in 1998, and a longer growing season tends to help yields. Early-season prospects were favorable, with ample soil moisture this spring. Despite concerns over drought that sometimes follows El Niño, adequate rain fell during the summer in the major producing States, although soybean fields in the South have been hurt by hot and dry weather. The U.S. average soybean yield is expected to reach 39.5 bushels per acre, which would rank second only to the 1994 yield of 41.4 bushels.

U.S. farmers have not been the only recipients of such bounty. Responding to the same net return incentives, South American producers expanded soybean plantings more than ever before. In Brazil, continuing transportation improvements have lowered marketing costs, opening more remote lands for competitive soybean production. El Niño helped bring abundant rainfall to South American fields in early 1998, resulting in bumper harvests for Brazil, Argentina, and Paraguay (the world's second, third, and sixth largest soybean-producing countries). Argentina's 1998 output was nearly 50 percent larger than the drought-damaged 1997 crop. In addition, a rain-delayed har-

vest and slower marketings will push even more foreign supplies into direct competition with U.S. exports in 1998/99 (September-August). Excellent worldwide harvests of competing oilseeds, such as rapeseed and sunflowerseed, will also pressure soybean prices.

Despite a superb start, 1997/98 U.S. soybean exports are expected to be down slightly from the previous year (870 million bushels) because of substitution of soybean oil and meal exports. In 1997/98, robust foreign demand is hiking U.S. exports of soybean meal and soybean oil (up 33 percent and 45 percent). Domestic soybean crushing consequently soared to satisfy increasing demand for meal and oil. But given large South American stocks this fall, export competition will be much fiercer for the U.S. than a year ago when it was virtually the world's only source of soybeans. As of mid-August, U.S. export sales of soybeans and soybean meal in 1998/99 (i.e., new crop to be delivered) were only 38 and 61 percent, respectively, of the amount sold a year earlier. U.S. soybean oil exports are forecast at 2.8 billion pounds in 1998/99, down 5 percent from the previous year.

Competitor exports will edge higher, although lower U.S. prices should moderate the decline in U.S. exports of soybeans to 850 million bushels in 1998/99. Projected U.S. exports of soybean meal are scaled back from 9.3 million short tons in 1997/98 to 9 million tons. The considerably lower total value of these exports will be felt at the farm level. U.S. soybean farm income in 1998/99 may be cut more than \$2.5 billion (about \$35 per harvested acre) from the record 1997/98 earnings.

Asian Financial Crisis Batters World Soybean Consumption

The other side of this outlook relates to the altered circumstances for foreign trade growth, especially in Asia. In 1996/97, Asian nations accounted for 44, 25, and 56 percent of U.S. exports of soybeans, soybean meal, and soybean oil. But serious economic recessions throughout the Pacific region have undermined the demand base in several major markets.

Since mid-1997, a wave of foreign exchange devaluations affecting Thailand,

Putting the Brakes on Consumption of Added Fats & Oils

Numerous reports and analyses by public health organizations conclude that Americans eat too much fat and recommend that Americans limit their fat intake. Americans appear to be following this advice. Recent analysis by USDA's Economic Research Service (ERS) suggests that consumer concern about fat intake, and food manufacturer response to this concern, is limiting use of added food fat in edible products (i.e., fat used as an ingredient or in cooking) and reducing per capita consumption. Historically, price and income were the principal determinants of annual levels of consumption.

Annual per capita consumption of fat added to food has generally increased over time since data collection began in 1909. Consumption occasionally declined year to year, but it dropped for an unprecedented fourth consecutive year in 1997, signaling a more substantive arrest. Preliminary data for 1998 show total use of fats and oils in edible products trailing last year, which strongly suggests that per capita consumption will fall again this year.

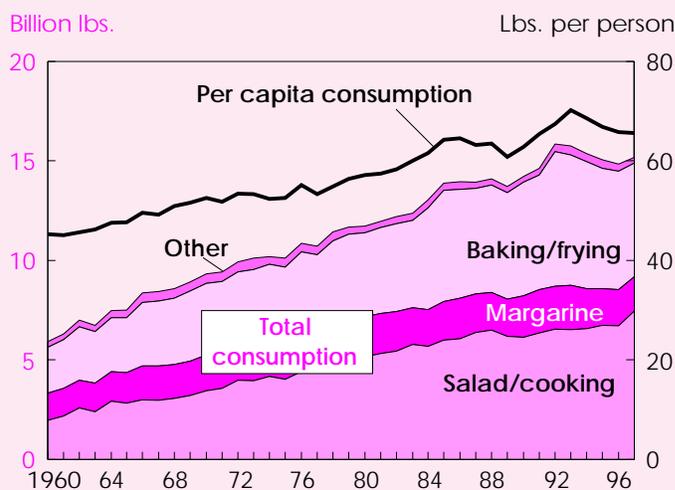
Total use of fats and oils in the domestic manufacture of edible products peaked in 1993 at 15.7 billion pounds (as per capita consumption peaked at 70.2 pounds). Total use fell for 3 consecutive years to 14.8 billion pounds in 1996, while per capita consumption declined to 65.8 pounds. In 1997, per capita use of fats and oils declined again, but total use rose to 15.2 billion pounds due to population growth.

While total fats and oils use declined during 1993-97, soybean oil's share of the total rose from 78 percent (12.2 billion pounds) in 1993 to 82 percent (12.4 billion pounds) in 1997. Among product categories for 1997, soybean oil comprised 83 percent of the total fats and oils used in salad and cooking oil manufacture, 80 percent of total use in production of baking and frying fats, and 95 percent of the total use in margarine production.

Soybean oil's rising share of the market over this period has come at the expense of virtually all other fats and oils reported. The shares of cottonseed oil, corn oil, and edible tallow dropped the most. The change in share is largely the result of competitive prices for soybean oil among vegetable oils and a long-term shift away from the use of animal fats in foods. But since soybean oil has been increasing its share of markets that are declining (margarine and baking/frying fat applications), gains in total use of soybean oil will likely be unsustainable.

The principal source of data on consumption of added fats and oils in the U.S. is the Department of Commerce's Bureau of Census report, *M20K—Fats and Oils, Production, Consumption and Stocks*. This report details the quantities of added fats and oils used in the domestic manufacture of edible products, such as salad and cooking oil, baking and frying fat, margarine, and other edible use. ERS calculates per capita domestic disappearance of added fats and oils by adjusting for trade and changes in stocks.

U.S. Per Capita Consumption Declines for All Edible Oils



Economic Research Service, USDA

In addition, the share of soybean oil in the domestic food market may be approaching its limit. Additional gains will have to come in markets for which soybean oil is not as well suited. For instance, soybean oil will likely have difficulty replacing cottonseed oil in the domestic potato chip frying market, where cottonseed oil is deemed a premium oil because of its flavor-enhancing attributes and high cooking temperature. And rising imports of substitute oils will likely hinder significant growth in use of soybean oil. Olive oil imports (from Italy, for example) have been rising rapidly in recent years as consumer demand has led to more use in the salad and cooking oil market. Imports of canola oil (from Canada) have also made significant inroads to this market.

A continuing decline in per capita consumption of added fats and oils (and associated declines in total use of fats and oils in the domestic manufacture of edible products) is likely to reduce the growth potential of soybean oil in added fats and oils products. This potential slowing of domestic use is accompanied by forecasts for record levels of domestic soybean crush and soybean oil production. The greatest potential for growth is export markets, barring a sharp turnaround in domestic use of U.S. soybean oil. (Manufacturers have recently added modest amounts of fat to some products following a mild consumer backlash to "low-fat" foods. Also, there is some potential gain from the recent market introduction of the vegetable-oil-based fat substitute, olestra.) Should per capita declines in domestic consumption of fats and oils continue, oilseed producers could see farm prices for their products drop.

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An article in an upcoming issue of *Food Review* will discuss changes in U.S. fat consumption in more detail.

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Indonesia, South Korea, Taiwan, Malaysia, and the Philippines has pushed their currencies to historical lows against the U.S. dollar. As a consequence, prices of agricultural imports in dollar terms have dramatically risen. Soybean meal consumption in Taiwan has also suffered a setback after the 1997 outbreak of foot-and-mouth disease in hogs, which halted that country's lucrative pork export trade with Japan. Imports of soybeans and meal (in soybean meal equivalent) by these six countries in 1998/99 is expected 17 percent lower than in 1996/97.

Short-term credit for U.S. agricultural commodities, offered through USDA's GSM-102 program, has been key in stabilizing soybean and soybean meal imports from the U.S. Despite the availability of GSM credit, the ongoing financial crisis has caused several Asian countries to ration imports. Even Japan's economy slipped into recession as the yen fell to the lowest level versus the dollar in 8 years. Rising meat imports will also trim Japanese 1998/99 soybean meal consumption, resulting in soybean imports 7 percent lower than the 1996/97 level.

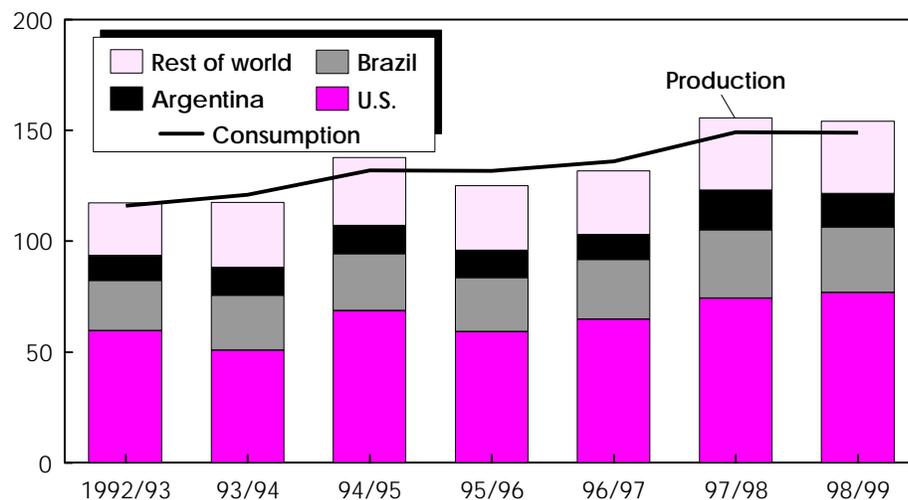
One of the few bright spots for farmers in the current world soybean complex is a strong vegetable oil market. Since 1996/97, the average U.S. soybean oil price has risen from 22.5 cents per pound to the 1998/99 forecast of 25.5-27.5 cents. A shortfall in global palm oil production—with world prices rising 40 percent since mid-1997—is largely responsible for this situation. Palm oil ranks a close second to soybean oil in world vegetable oil production and is consumed extensively in Asia, the Middle East, and Africa.

Supplies of palm oil have been cut by a severe drought in the major Southeast Asian producing nations. In addition, Indonesia has placed restrictions on palm oil exports to control domestic consumer prices. With the dissipation of El Niño, the rains have resumed. But the long biological cycle of palm trees means that palm oil production may not increase greatly until well into next year. Sluggish growth would continue to buoy prices for soybean oil, providing the only price-supporting factor for soybeans in the short term.

China is the world's premier market for vegetable oils, importing large volumes of

World Soybean Production Outpaces Consumption Again in 1998/99

Million metric tons



1997/98 preliminary; 1998/99 forecast.
Economic Research Service, USDA

both soybean and palm oil. China will import more oils in 1998 as consumption continues to expand and domestic oilseed production declines. China has not yet suffered the currency problems of its Asian neighbors, but Chinese economic growth is slowing as export competition for all goods from the other countries intensifies. Excluding China, there will be few other markets where soybean oil trade is expected to gain in the coming year. Pakistan and India, each large importers of soybean oil, may scale back oil imports to conserve foreign exchange. Both countries have devalued currencies and lost sources of credit because of economic sanctions imposed after nuclear weapons tests.

With attractive vegetable oil prices, farmers in Europe, Canada, Australia, and the U.S. expanded 1998 plantings of rapeseed and sunflowerseed, oilseeds with high oil content. Excellent oilseed harvests in Europe will squeeze international trade in soybeans and shift a greater proportion of imports in the form of soybean meal. Record oilseed output is anticipated in India, as well. This would trim India's need for vegetable oil imports and widen its surplus of soybean meal that it exports to Asian buyers.

Even at an intense crush rate, soybeans alone do not have oil content high enough to quickly rebuild world oil supplies. But global demand for protein meal has weak-

ened relative to the burgeoning meal supplies created jointly for the vegetable oil market. Income declines have induced many Asian consumers to reduce their consumption of meat (still considered a luxury item for many), and consequently lowered livestock use of protein meal. A cut in soybean meal demand has a greater effect on the soybean price, as protein meal is the predominant product from processing soybeans. U.S. soybean meal prices have fallen to their lowest level since 1985, a bargain for livestock producers. Lower feed costs are helping domestic poultry and hog production expand, and should raise U.S. soybean meal disappearance to a record 29.4 million short tons.

Late this year, South American producers should cut back their soybean plantings, and yields are expected to revert to trend levels. And, provided economic reforms are implemented, a modest recovery by several Asian importers would encourage demand. Nevertheless, while it is difficult to know how relative U.S. commodity prices will look next spring, the chances for an increase in 1999 soybean acreage are slim. The large expected 1998/99 carryout stocks will weigh heavily on soybean prices, encouraging farmers to look for more profitable crop alternatives.

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